EFFECTIVE LEACHING CREDITS & CENTER TO CENTER SPACING

LEACHING TRENCHES

Trench Depth (inches)	Trench Width (inches)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
18	18	2.1	7
18	24	2.4	7
18	30	2.7	7
18	36	3.0	7
12	48	3.0	8

LEACHING GALLERIES

Gallery Height (inches)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
48	9.2	12
36	8.0	12
30	7.4	12
27	7.1	12
24	6.8	12
18	6.2	12
12	5.9	12

PLASTIC LEACHING CHAMBERS

(backfilled with select fill or approved aggregate)

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
PSA - BioDiffuser (11)	34” x 11”	3.6	7
PSA - BioDiffuser (14)	34” x 13.5”	3.7	7
PSA - BioDiffuser (High Capacity)	34” x 16”	3.6	7
Hancor - EnviroChamber Pro (Stand.)	34” x 11”	3.6	7
Hancor - EnviroChamber Pro (Arc 36)	34.5” x 13”	3.6	7
Hancor - EnviroChamber Pro (Arc 36 High Cap.)	34.5” x 16”	3.9	7
Infiltrator - Equalizer 24	15” x 11”	2.3	7
Infiltrator - Equalizer 36	22” x 13.5”	2.7	7
Infiltrator - Sidewinder (Stand.)	34” x 12”	3.7	7
Infiltrator - Sidewinder (High Cap.)	34” x 16”	3.9	7

PLASTIC LEACHING CHAMBERS

(backfilled with approved aggregate)

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
Cultec - Contactor EZ-24	16” x 12”	1.9	7
Cultec - Contactor EZ-24 (PDS)	16” x 12”	2.5	7
Cultec - Contactor 75	26.5” x 12.4”	2.6	7
Cultec - Contactor 100	36” x 12.5”	3.7	7
Cultec - Contactor 100 (PDS)	36” x 12.5”	4.3	7
Cultec - Contactor 125	26.5” x 18”	2.9	7
Cultec - Recharger 180	36” x 20.5”	4.4	7
Cultec - Recharger 180 (PDS)	36” x 20.5”	5.1	9
Cultec - Recharger 280	46” x 26.5 ”	6.5	10
Cultec - Recharger 280 (PDS)	46” x 26.5 ”	7.1	10
Cultec - Recharger 330XL HD	52” x 30”	5.6	11
Infiltrator Quick 4 Equalizer 24	16” x 11”	2.0	7
Infiltrator Quick 4 Equalizer 36	22” x 12”	2.6	7
Infiltrator Quick 4 Standard	34” x 12”	3.6	7
Infiltrator Quick 4 High Capacity	34” x 16”	4.1	7
PSA - BioDiffuser ARC 36	34.5” x 13”	3.7	7
PSA - BioDiffuser ARC 36HC	34.5” x 16”	4.1	7

ELJEN IN-DRAINS

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
Eljen In-drain - Type “B” Unit	36” x 7”	4.7	7
Mantis 424-9, Internal Distribution Pipe	24” x 12”	5.2	9
Mantis 424-9, Top Distribution Pipe	24” x 12”	8.6	9
Mantis 430-10, Internal Distribution Pipe	30” x 12”	6.5	9
Mantis 430-10, Top Distribution Pipe	30” x 12”	11.0	12

RUCK A FINS

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
Ruck A Fins - R1032C	32” x 7”	7.0	9

CUR-TECH SYSTEMS

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
CTL-12	72” x 14”	8.3	12
CTL-18	72” x 20”	10.7	14
CTL-24	72" x 26"	13.0	14
CTL-48	72" x 50"	21.9	14

FORM CELL LIVING FILTER

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
Living Filter- LF1210	29” x 18”	3.9	7
Living Filter- LF1810	29” x 24”	5.5	9
Living Filter- LF2410	29” x 30”	7.0	9
Living Filter- LF3010	29” x 36”	8.6	9
Living Filter- LF3610	29” x 42”	10.1	12
Living Filter- LF1224	60” x 18”	7.4	11
Living Filter- LF1826	64” x 24”	11.0	12
Living Filter- LF2426	64” x 30”	14.2	14
Living Filter- LF3026	64” x 36”	17.3	14
Living Filter- LF3626	64” x 42”	20.4	14

GREENLEACH FILTER

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
GLF 12.62	62” x 12”	7.9	12
GLF 15.62	62” x 15”	9.4	12
GLF 18.62	62” x 18”	11.0	14
GLF 21.62	62” x 21”	12.5	14
GLF 24.62	62” x 24”	14.0	14
GLF 27.62	62” x 27”	15.5	14
GLF 30.62	62” x 30”	17.0	14
GLF 33.62	62” x 33”	18.5	14
GLF 36.62	62” x 36”	20.0	14

GEOMATRIX

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
GeoMat 1200	12” x 1”	1.0	7
GeoMat 3900	39” x 1”	3.0	8
GeoMat 7800	78” x 1”	5.9	13
LowPro WE 1200	72” x 1”	5.2	12
LowPro WE 3900	72” x 1”	5.6	12
GeoMat Edge ST 600	72” x 6”	14.0	14
GeoMat Edge ST 1200	72” x 14”	27.2	14
GeoMat Edge WE 1200	72” x 13”	27.2	14
GST 6206	62” x 6”	5.9	12
GST 6212	62” x 12”	10.0	12
GST 6218	62” x 18”	14.0	13
GST 6224	62” x 24”	18.1	13
GST 6230	62” x 30”	22.1	13
GST 6236	62” x 36”	26.2	13

CORRUGATED SYSTEMS LINED/COVERED W/ FILTER FABRIC

Product Name	Dimensions (Diameter / W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
GEO-FLOW	12” Diam	2.3	7
Presby Env. - ENVIRO-SEPTIC	12” Diam	2.3	7
Presby Env. - SIMPLE-SEPTIC	12” Diam	1.5	7
ADS - SB2	10” Diam	0.9	7
Cultec - Contactor EZ-24	16” x 12”	1.9	7
Cultec - Contactor EZ-24 (PDS)	16” x 12”	2.5	7
Cultec - Contactor 75	26.5” x 12.4”	2.6	7
Cultec - Contactor 100	36” x 12.5”	3.7	7
Cultec - Contactor 100 (PDS)	36” x 12.5”	4.3	7
Cultec - Contactor 125	26.5” x 18”	2.9	7
Cultec - Recharger 180	36” x 20.5”	4.4	7
Cultec - Recharger 180 (PDS)	36” x 20.5”	5.1	9
Cultec - Recharger 280	46” x 26.5 ”	6.5	10
Cultec - Recharger 280 (PDS)	46” x 26.5 ”	7.1	10
Cultec - Recharger 330XL HD	52” x 30”	5.6	11
Infiltrator Quick 4 Equalizer 24	16” x 11”	2.0	7
Infiltrator Quick 4 Equalizer 36	22” x 12”	2.4	7
Infiltrator Quick 4 Standard	34” x 12”	3.3	7
Infiltrator Quick 4 High Capacity	34” x 16”	3.7	7
PSA - BioDiffuser ARC 36	34.5” x 13”	3.9	7
PSA - BioDiffuser ARC 36HC	34.5” x 16”	4.5	7

S-BOX

Product Name	Dimensions (W x H)	Effective Leaching Credit (SF/LF)	Center to Center Spacing (feet)
SB1-3.5-36	36” x 3.5”	4.4	7
SB1-7-36	36” x 7”	8.2	9
SB1-13-36	36” x 13”	14.7	13
SB1-26-36	36” x 26”	28.7	13
SB1-3.5-72	72” x 3.5”	8.5	12
SB1-7-72	72” x 7”	15.9	14
SB1-13-72	72” x 13”	28.5	14

LEACHING SYSTEM SIZING

TABLE 6 - RESIDENTIAL BUILDING

Percolation Rate	Square Feet of Required Effective Leaching Area				
(Minutes to Drop One Inch)	2-Bedroom Building	3-Bedroom Building	4-Bedroom Building	For Each Bedroom Above 4	
				Single Family	Multi-family
LESS THAN 10.1	375	495	660	82.5	165
10.1-20.0	500	675	900	112.5	225
20.1-30.0	565	750	1000	125	250
30.1-45.0	675	900	1200	150	300
45.1-60.0	745	990	1320	165	330

TABLE NO. 7 - RESTAURANTS, RESIDENTIAL INSTITUTIONS, AND NONRESIDENTIAL BUILDINGS WITH PROBLEMATIC SEWAGE

PERCOLATION RATE (Minutes to Drop One Inch)	APPLICATION RATE (Gallons per day to one square foot of Effective Leaching Area)
LESS THAN 10.1	0.8
10.1 to 20.0	0.7
20.1 to 30.0	0.6
30.1 to 45.0	0.5
45.1 to 60.0	0.4

TABLE NO. 8 - NONRESIDENTIAL BUILDINGS WITH NON-PROBLEMATIC SEWAGE

PERCOLATION RATE (Minutes to Drop One Inch)	APPLICATION RATE (Gallons per day to one square foot of Effective Leaching Area)
LESS THAN 10.1	1.5
10.1 to 20.0	1.2
20.1 to 30.0	0.9
30.1 to 45.0	0.7
45.1 to 60.0	0.6

$$\text{REQUIRED EFFECTIVE LEACHING AREA} = \frac{\text{DESIGN FLOW}}{\text{APPLICATION RATE}}$$

APPENDIX A

MINIMUM LEACHING SYSTEM SPREAD (MLSS)

In accordance with PHC Section 19-13-B103e (a) (4), no permit or approval shall be issued for any new subsurface sewage disposal system where the surrounding naturally occurring soil cannot adequately absorb or disperse the expected volume of sewage effluent without overflow, breakout or detrimental effect on ground or surface water. Naturally occurring soil is the soil material on a property that resulted from natural processes. It does not include fill deposited on a property by man, or soil that otherwise ended up on a property as a result of man's actions.

The MLSS calculation shall be utilized for all subsurface sewage disposal systems as a precursor to possible further, more in-depth, hydraulic analysis. The MLSS criteria shall be applied to the primary leaching area. Wherever feasible the reserve leaching area should provide additional hydraulic relief. Primary leaching systems located within 50 feet of one another and in the same hydraulic window shall be evaluated collectively as a common system. On sites where MLSS is applicable, single leaching system rows shall contain leaching products of a uniform ELA rating in order to avoid possible hydraulic overloading of a portion of the leaching system row.

MLSS Formula

MLSS (in feet)	=	HF x FF x PF (See next page for factor tables)
HYDRAULIC FACTOR (HF)	=	Factor based on hydraulic gradient and depth of restrictive layer within and down gradient of the leaching area.
FLOW FACTOR (FF)	=	Factor based on the design flow.
PERCOLATION FACTOR (PF)	=	Factor based on the percolation rate of the receiving naturally occurring soil.

DEFINITIONS

Hydraulic Gradient: Shall be deemed the percent of slope of the naturally occurring soil in the area of the leaching system (from uppermost leaching system row to 25-50 feet down gradient of system). Actual slope of restrictive layer may be utilized if field verification can be made.

Restrictive Layer: Shall be deemed the layer which impedes downward movement of flow within the proposed leaching area. This boundary will likely be the lesser of such conditions as: ledge; severely restrictive hardpan (slower than 30 minutes/inch) which is beneath a more permeable soil layer; or seasonal maximum groundwater levels. If clear determination of maximum groundwater levels cannot be made during site testing then this level shall be determined by groundwater monitoring. The average of at least five (5) consecutive weekly readings taken in the most restrictive 30-day period of the wet season shall be used as a basis.

Depth to Restrictive Layer: Shall be deemed the depth in inches from the top of naturally occurring grade to the restrictive layer. The average depth of natural soil above the restrictive layer in the area of the leaching system and between 25-50 feet down gradient shall be used to calculate MLSS.

Leaching System Spread: Shall be deemed the length in feet of sewage application parallel to the contours of the naturally occurring soils in the leaching area. In instances where it has been demonstrated the water table is level (essentially 0% hydraulic gradient), the spread shall be deemed to be the length in feet of the perimeter of the leaching system. Sewage shall be applied fairly uniformly over the entire length to be valid. If not, each section of the leaching system shall be analyzed independently in proportion to its daily discharge volume.

HYDRAULIC FACTOR (HF)

HYDRAULIC GRADIENT (% OF SLOPE)

DEPTH TO RESTRICTIVE LAYER (INCHES)	<1.0	1.0-2.0	2.1-3.0	3.1-4.0	4.1-6.0	6.1-8.0	8.1-10.0	10.1-15.0	>15.0
0.1 - 17.9	SEE NOTE								
18.0 - 22.0	72	62	54	48	42	34	30	28	26
22.1 - 26.0	66	56	48	42	34	30	28	26	24
26.1 - 30.0	56	49	42	34	30	28	26	24	20
30.1 - 36.0	48	42	34	30	28	26	24	20	18
36.1 - 42.0	42	36	30	28	26	24	20	18	16
42.1 - 48.0	36	32	28	26	24	20	18	16	14
48.1 - 60.0	30	28	24	22	20	18	16	14	10
>60.0	MLSS NEED NOT BE CONSIDERED								

Note #1- Cannot be approved unless a formal hydraulic analysis demonstrates suitability. The hydraulic analysis must confirm compliance with PHC Section 19-13-B103e (a) (4). Sites with no unsaturated naturally occurring soil would not be a candidate for hydraulic analysis since the naturally occurring soil is already in an "overflowed" condition (See PHC Section 19-13-B103e (a) (4)).

FLOW FACTORS (FF)

Flow Factor = Design Flow/300

Residential: Design Flow for each bedroom is 150 gallons per day (GPD) except for bedrooms beyond 4 in single-family residential buildings, which have a 75 GPD per bedroom design flow.

Single-family homes:	**FF**	
2 Bedroom Home = 300/300	1.0	
3 Bedroom Home = 450/300	1.5	
4 Bedroom Home = 600/300	2.0	
5 Bedroom Home = 675/300	2.25	Increase FF by 0.25 for each additional bedroom
Multi-family buildings:		
Same as above except 5 Bedrooms = 750/300	2.5	Increase FF by 0.5 for each additional bedroom

Non-Residential: Design Flow (GPD) / 300

PERCOLATION FACTORS (PF)

Percolation Rate	Percolation Factor (PF)
Up to 5.0 Minutes/Inch	1.0
5.1 to 10.0 Minutes/Inch	1.2
10.1 to 20.0 Minutes/Inch	1.5
20.1 to 30.0 Minutes/Inch	2.0
30.1 to 45.0 Minutes/Inch	3.0
45.1 to 60.0 Minutes/Inch	5.0